ABSTRACT OF THE DISCLOSURE

Data flows generated in accordance with a connected mode protocol and formatted in packets in accordance with a non-connected mode protocol are transmitted via an ATM network. A set of virtual circuits of the ATM network is assigned in advance to each pair of access points of the ATM network, without allocating transmission rate resources to them. When an access point receives a request, formulated in accordance with the connected mode protocol, to establish a connection between a source address and a destination address accessible via another access point of the ATM network, an available virtual circuit is selected from the set assigned to this pair of access points and a resource management cell containing a request to activate the virtual circuit is transmitted on the selected virtual circuit. When this cell is received by a node of the ATM network located on the selected virtual circuit, a transmission rate resource is allocated, if it is available, to the selected virtual circuit.